

Remarks

Amendments

Claim 11 has been amended to recite purified nucleic acids that hybridize to a nucleic acid molecule comprising “a translatable portion of SEQ ID No. 1, a translatable portion of SEQ ID No. 3, a sequence complementary to a translatable portion of SEQ ID No. 1, or a sequence complementary to a translatable portion of SEQ ID No. 3.” Claim 47 has been amended to recite that the nucleic acid of claim 11 has a sequence that is perfectly complementary to “a translatable portion of SEQ ID No. 1, a translatable portion of SEQ ID No. 3, or a complementary sequence thereof.” The specification supports these amendments *inter alia* at page 15, lines 12-21:

[T]his invention includes nucleic acid sequences having 60% or greater homology to all or part of the translated portion of the gene for HCaRG of the rat [SEQ ID NO:1]. This would include nucleic acid sequence whose codon usage has been modified to suit a particular host. Sense, antisense and mRNA sequences are encompassed by the term “nucleic acid sequences” . . . Furthermore, this invention includes nucleic acid sequences having 60% or greater homology to all or part of the translated portion of the gene for HCaRG of the human [SEQ ID NO:3].

These amendments introduce no new matter.

The Rejection of Claims 11-13, 19-21, and 47-52 Under 35 U.S.C. § 102(e) and 103(a)

Claims 11-13, 19-21, and 47-52 have been rejected under 35 U.S.C. § 102(e) and 103(a) as being anticipated and/or obvious over Holton *et al.* (U.S. Patent 5,569,832; “Holton”).

Applicants respectfully traverse the rejection.

Anticipation

“A claim is anticipated only if each and every element as set forth in the claim is found,

either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987). Holton does not teach or suggest each and every element as set forth in the rejected claims.

Amended claim 11, the only independent claim of the rejected claim set, is directed to a purified nucleic acid. The purified nucleic acid is at least 12 nucleotides in length and hybridizes to a nucleic acid molecule in an *in situ* hybridization assay performed in a cell at 60°C in 4x SSC and 50% formamide. The nucleic acid molecule comprises a translatable portion of SEQ ID No. 1, a translatable portion of SEQ ID No. 3, a sequence complementary to a translatable portion of SEQ ID No. 1, or a sequence complementary to a translatable portion of SEQ ID No. 3.

Holton teaches nucleic acids that encode flavonoid pathway enzymes. The Office Action cites Holton as teaching a sequence, SEQ ID NO:20, which possesses 100% identity with residues 1083-1100 of SEQ ID NO:1, and would thus specifically hybridize with SEQ ID NO:1. Paper 20, page 3, lines 5-7. Nucleotides 1083-1100 of SEQ ID NO:1, however, are not a translatable portion of SEQ ID NO:1. The translatable portion of SEQ ID No. 1 is from nucleotide 132 to nucleotide 803. See the sequence listing at SEQ ID No. 1, which indicates that the coding sequence (CDS), *i.e.*, translatable portion, of SEQ ID No. 1 includes nucleotides 132 to 803. Thus, Holton does not teach or suggest a purified nucleic acid that is at least 12 nucleotides in length and that hybridizes to a nucleic acid molecule that “comprises a translatable portion of SEQ ID No. 1, a translatable portion of SEQ ID No. 3, a sequence complementary to a translatable portion of SEQ ID No. 1, or a sequence complementary to a translatable portion of SEQ ID No. 3” as recited in claim 11. Holton does not expressly or inherently teach each and

every element recited in independent claim 11 or dependent claims 12, 13, 19-21, and 47-52.

Thus Holton does not anticipate these claims.

Obviousness


To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981 (C.C.P.A. 1970). Holton does not teach or suggest all the elements recited in the rejected claims.

As indicated above, Holton does not teach a purified nucleic acid that hybridizes to a nucleic acid molecule that “comprises a translatable portion of SEQ ID No. 1, a translatable portion of SEQ ID No. 3, a sequence complementary to a translatable portion of SEQ ID No. 1, or a sequence complementary to a translatable portion of SEQ ID No. 3” as recited in claim 11. Holton also does not suggest a purified nucleic acid that hybridizes such a nucleic acid molecule. Holton teaches nucleic acid sequences encoding flavonoids and oligonucleotides used to detect nucleic acid sequences encoding flavonoids. Holton also teaches nucleic acid sequences that can be used to amplify and sequence polynucleotides encoding cytochrome P450 enzymes. These nucleotide sequences do not suggest a nucleic acid sequence that hybridizes to a translatable portion of an unrelated, *i.e.*, calcium regulated (CaR), nucleic acid. Thus Holton does not suggest the purified nucleic acid recited in independent claim 11 and dependent claims 12, 13, 19-21, and 47-52. Holton does not teach or suggest all the elements recited in claims 11-13, 19-21, and 47-52 and does not render these claims obvious.

Applicants respectfully request withdrawal of the 102(e)/103(a) rejections to claims 11-13, 19-21, and 47-52.

Respectfully submitted,

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